

REMARKS/ARGUMENTS

Claims 1 and 3-20 are pending in the instant application. In the final Office Action dated December 14, 2005, the Examiner has rejected claims 1, 3 and 11-17 as anticipated under 35 USC 102(e) by Jin (US 6658045). The Examiner has further rejected claims 5 and 19 as obvious under 35 USC 103(a) in view of Jin and EPGRS Link Quality Control Measurement and Filtering (SMG2 444/99), and claims 4 and 6-10 as obvious under 35 USC 103(a) over Jin. Further, the Examiner has continued his rejection of claim 20 as obvious under 35 USC 103(a) in view of Wan (US 6385460) and SMG2 444/99.

As an initial matter, the finality of the rejection is seen as premature, and withdrawal is requested (MPEP 706.07(d)). “Under present practice, second or any subsequent office actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant’s amendment of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 C.F.R. 1.97(c).” MPEP 706.07(a). The office action dated December 14, 2005 asserts a new grounds for rejection by citing to Jin. The applicant did not submit an IDS following the non-final office action dated June 15, 2005, and the Amendment dated October 17, 2005, to which the final office action responds, did not necessitate the new grounds for rejection.

Claims 1, 17 and 19 are independent. The Amendment dated October 17, 2005 changed claim 1 “to replace the steps ‘deriving’ and ‘transmitting’ with the step ‘wirelessly receiving’, so that claim 1 reads only on actions performed in the mobile equipment.” (page 6). That Amendment further stated that “Claims 17 and 19 are amended as to form so that the different elements of the network and mobile equipment are set off by indentations.” (page 8). The minor amendments to claims 17 and 19 removed superfluous prepositional phrases and (in claim 19) re-positioned one claim element alongside another related element, so the substance of claims 17 and 19 were not changed by that Amendment. Because the applicant’s amendments to the independent claims submitted in the Amendment dated October 17, 2005 did not *necessitate* the new grounds of rejection, the finality of the office action dated December 14, 2005 is seen as premature. Withdrawal of the finality of that office action is requested under MPEP 706.07(d).

Respecting claim 1, the Examiner's pinpoint citations to Jin appear to indicate that either the PWR_CTRL_THR or more likely the FWD_PWR_CTRL parameter anticipates the "indication of link quality experienced by the ME" recited in claim 1. The Applicant assumes that the FWD_PWR_CTRL parameter is more likely asserted by the Examiner as anticipating the claimed indication of link quality, since Jin describes this parameter as being sent to the base station at col. 9 lines 34-35 and 58-60, and claim 1 further recites "reporting the calculated indication of link quality to the wireless network". The Applicant agrees that Jin discloses that a speed estimator located at the base station may be used for adapting parameters at the mobile unit (col. 3 lines 10-12), and that both PWR_CTRL_THR and FWD_PWR_CTRL parameters depend from the SPEED parameter (col. 9 lines 45-46 and 51-58). For at least two separate and distinct reasons detailed below, claim 1 is seen to be patentable over Jin.

First, claim 1 recites that the calculation employs "a filter having a finite filter length that is a function of the speed indication". Calculation of neither the PWR_CTRL_THR nor the FWD_PWR_CTRL parameters in Jin employ a variable length filter. Jin details at col. 9 lines 45-47 that the PWR_CTRL_THR parameter is extracted from a look-up table indexed according to SPEED. Jin details at col. 9 lines 51-53 that the FWD_PWR_CTRL parameter is a difference between an accumulated value and the PWR_CTRL_THR value. Col. 9 lines 36-45 describe that accumulated value as being the product of FNGR_STRN(L) and COMB(L) parameters, summed and accumulated over a given period. The *given* period is set by a standard ["(e.g., 1.25 ms as in IS-95)"] and the example shows that the period is fixed, so the period over which those parameters are accumulated appears unrelated to the SPEED parameter. Calculation of either the PWR_CTRL_THR or the FWD_PWR_CTRL parameters are not reasonably seen to anticipate employing a filter whose length is a function of a speed indication as in claim 1.

Second, neither the PWR_CTRL_THR nor the FWD_PWR_CTRL parameters are reasonably analogous to an indication of link quality as recited in claim 1. While both link quality and the Jin power parameters are related to speed of the mobile unit, that common relation does not render link quality analogous to power. Consider a logical exercise, where LQ is link quality, P is a power measure, and S is speed. The fact that both LQ and P are functions of the variable S does not necessitate that LQ and P are analogous to one another

unless the functions themselves are further related. More particularly to claim 1, the common dependent variable S does not imply that LQ and P convey similar information; the functions may be completely different and even inverse from one another so that for a given change in S, LQ increases while P decreases. Jin does not indicate that CDMA power settings, such as FWD_PWR_CTRL, is indicative of link quality.

For example, link quality for one CDMA mobile unit may be good while that mobile unit's greater distance from the base station drives its FWD_PWR_CTRL value to be high. Simultaneously, link quality for another mobile unit, in the same cell and traveling at the same speed, may be poorer but its nearer distance from the same base station drives its FWD_PWR_CTRL value low. Changing the relative distance between each mobile unit and the base station, without changing speed, may then change the FWD_PWR_CTRL value for each while link quality remains unchanged for one or both, because power control in a CDMA system is dominated by distance from the base station relative to other mobile units. Power control is therefore not a reasonable indicator of link quality, as the office action implies by asserting that FWD_PWR_CTRL anticipates the claimed indication of link quality.

Jin explicitly discloses channel state information CSI at numerous instances, and this CSI estimate is seen as closer than a power parameter to the indication of link quality in claim 1. See for example Jin at col. 6 lines 13-24 and 54-60 and col. 9 lines 7-14. Calculation of the Jin CSI estimate may be done by a lookup table or a variable length accumulator, and the value of the accumulation period is disclosed as being a function of SPEED. But Jin never reports that calculated indication of link quality to the wireless network as in claim 1; it is retained in the mobile unit for weighting different sample streams by the accumulator output FNGR_STRN(L), and those sample streams are then decoded by the baseband processing block (col. 6 lines 24-28 and 40-54). In the alternative Jin embodiment for CSI, the accumulator output is used as a component in phase estimation, possibly in addition to separately weighting the different received sample streams (col. 6 lines 54-65). In neither instance is the estimated CSI sent outside the mobile unit. Nowhere is Jin or any other reference seen to provide motivation to transmit that estimated CSI from the mobile equipment to the wireless network. The Office Action refers to Jin at col. 10 lines 19-27, but that section discloses that the base station calculates REV_PWR_CTRL as a function of

the mobile unit's SPEED and sends it, presumably to the mobile unit since it is a reverse power control parameter.

For the above two separate and independent reasons, claim 1 is seen to patentably distinguish over Jin. Though they use slightly different language, claims 17 and 19 similarly distinguish over Jin either alone or in combination with SMG2 444/99.

Respecting the rejection to claim 20, the Examiner asserts that: "Wan teaches a method for operating a wireless communications system comprised of a wireless network and a plurality of mobile equipment (ME) located in at least one serving cell of said wireless network (see fig. 1), comprising steps of: determining in the wireless network an indication of a signal quality experienced by individual ones of the plurality of ME (col. 7, lines 22-23); transmitting the determined indications to individual ones of the ME using a point-to-point message (col. 2, lines 20-65; col. 5, lines 5-15; col. 12, lines 12-65 and col. 7, line 27-col. 8 line 40); in a particular one of the plurality of ME, receiving the transmitted indication (col. 2, lines 20-65; col. 5, lines 5-15; col. 12, lines 12-65 and col. 7, line 27-col. 8, line 40). Wan is silent to disclose using the received indication for setting a length of a filter that is employed in a filtering operation that operates on a sequence of link quality measurement data; and transmitting data from the filter to the wireless network. However, ETSI SMG2 discloses using the received indication for setting a length of a filter that is employed in a filtering operation that operates on a sequence of link quality measurement data; and transmitting a result of the filtering operation to the wireless network (see pages 11-14). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of ETSI SMG2 to Wan in order to improve signal quality."

As an initial matter, the citations to Wan clearly indicate that it is directed to a method for measuring signal quality from *neighboring* cells in the mobile station, of which that signal quality is expressed through a combination of various indicators (see for example Wan at the abstract, Figures 2 and 5, col. 1 lines 59-61, and col. 7 lines 28-34). Wan teaches at col. 7 lines 23-26 that the signal quality (from a neighboring cell) is averaged in order to tackle the influence of various factors on the measured signal quality. It is notable that Wan does not disclose how this averaging might be accomplished.

The Examiner asserts that Wan teaches: "Determining in the wireless network an indication of a signal quality experienced by individual ones of the plurality of ME (col. 7, lines 22-23);". Wan discloses at col. 7, lines 20-24: "Proceeding to state **605**, *the mobile unit 106* records the level or quality of the signal received. Because many factors may influence the signal quality each time it is measured, one embodiment averages several measurements of the signal quality *detected by the mobile unit 106.*" (italics added).

In view of the italicized clauses above, it is not seen how Wan teaches a method of determining *in a wireless network* an indication of a signal quality experienced by individual ones of the plurality of ME, as recited in claim 20. The cited teachings of Wan describe a mobile unit that itself detects a signal quality for signals received from a neighboring cell. It is not seen how a Wan neighboring cell could determine signal quality experienced by a mobile unit that is, by definition of "neighboring cell", operating outside that neighboring cell! Wan does not disclose how such a result might be achieved, and it is not seen as within ordinary skill in the art given the teachings of Wan.

Since Wan does not teach determining in the wireless network an indication of a signal quality experienced by individual ones of the plurality of ME, then Wan necessarily cannot teach *transmitting the determined indications* to individual ones of the ME using a point-to-point message, as also recited in claim 20. The Wan passages cited against this claims element are not seen to teach or suggest such transmitting. Note that antecedent basis in this claim element refers back to the indication of signal quality that was determined in the wireless network. Respecting the passages cited by the Examiner, Wan describes at col. 2, lines 20-65 that the mobile unit measures signal quality; col. 5, lines 5-15 explicitly refer to a mobile unit; col. 12, lines 12-65 of Wan refers to actions performed in the mobile unit; and col. 7, line 27-col. 8 line 40 of Wan also describes the mobile unit determining signal quality.

None of those citations are seen to teach or suggest transmitting any sort of indications to individual ones of the ME using a point-to-point message. The Examiner's column and line citations refer only to the ME measuring signal levels from one or several base stations. Nowhere does Wan teach or suggest that an indication is sent to an ME by a

base station or other network entity using a point-to-point message. The Examiner appears to have misunderstood the actual teachings of Wan.

The Examiner further asserts that Wan teaches: "in a particular one of the plurality of ME, receiving the transmitted indication (col. 2, lines 20-65; col. 5, lines 5-15; col. 12, lines 12-65 and col. 7, line 27-col. 8, line 40)." As detailed above, this element is also not seen to be within the Wan teachings. Wan detects signal quality at the mobile station itself, and therefore has no need for receiving from the network or any other entity an indication of signal quality that is experienced by that individual mobile unit. See particularly Wan at col. 7 lines 20-24. The network of Wan does not determine an indication of signal quality experienced by individual ones of the plurality of ME, and so cannot transmit information that it does not have for an individual ME to receive.

Further, SMG2 444/99 does NOT disclose a mechanism to use the received indication (of signal quality experienced by individual ones of the plurality of ME) for setting a length of a filtering operation that operates on a sequence of link quality measurement data. Specifically, SMG2 444/99 states on page 11, §5, "As widely used for other filtering purposes in GSM, a simple parameterised exponential filter could be used. *The filter is characterized by its averaging period (or equivalently its forgetting factor). This parameter should be broadcast in the cell, ...*". (italics added)

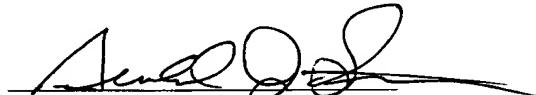
SMG2 444/99 discloses that the averaging *period* of the filter is *broadcast* by the network in the entire cell. This is seen as far afield of the claimed "using the received indication (i.e. an indication of a signal quality experienced by individual ones of the plurality of MS) for setting a length of a filtering operation [...]. First, it is the averaging period that mobile units of SMG2 444/99 receive, not the received indication of signal quality experienced by individual ones of the plurality of ME as in claim 20. Second, SMG2 444/99 broadcasts that averaging period, so even that averaging period is not transmitted to individual ones of the ME using a point to point message as in claim 20.

The Applicants assert that claim 20 is novel and non-obvious over the combination of Wan and SMG2 444/99. The rejection appears to be based on improper hindsight.

Appl. No. 09/457,952
Amendment dated March 8, 2006
Reply to Office Action of December 14, 2005

For at least the above reasons, the Applicant believes that claims 1-20 are patentable and the rejections are overcome. The Applicant respectfully requests the Examiner to pass all claims to allowance, and invites the Examiner to discuss any remaining concerns, if there be any, with the undersigned representative via telephone at his discretion.

Respectfully submitted:



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March 8, 2006

Date

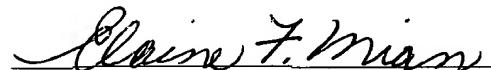
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March 8, 2006
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